



[4910-13-P]

## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

#### **14 CFR Part 39**

**[Docket No. FAA-2018-0511; Product Identifier 2017-NM-145-AD]**

**RIN 2120-AA64**

**Airworthiness Directives; BAE Systems (Operations) Limited Airplanes**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Notice of proposed rulemaking (NPRM).

**SUMMARY:** We propose to adopt a new airworthiness directive (AD) for all BAE Systems (Operations) Limited Model 4101 airplanes. This proposed AD was prompted by a determination that inspection requirements for a number of maintenance tasks are incorrect. This proposed AD would require a one-time detailed inspection of a certain fuselage frame and repair, if necessary, and a revision of the maintenance or inspection program, as applicable, to incorporate new or revised maintenance instructions and airworthiness limitations. We are proposing this AD to address the unsafe condition on these products.

**DATES:** We must receive comments on this proposed AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:** You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

- Federal eRulemaking Portal: Go to <http://www.regulations.gov>. Follow the instructions for submitting comments.

- Fax: 202-493-2251.

- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.

- Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this NPRM, contact BAE Systems (Operations) Limited, Customer Information Department, Prestwick International Airport, Ayrshire, KA9 2RW, Scotland, United Kingdom; telephone +44 1292 675207; fax +44 1292 675704; email [RAPublications@baesystems.com](mailto:RAPublications@baesystems.com); Internet <http://www.baesystems.com/Businesses/RegionalAircraft/index.htm>. You may view this service information at the FAA, Transport Standards Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195.

### **Examining the AD Docket**

You may examine the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2018-0511; or in person at the Docket Management Facility between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this NPRM, the regulatory evaluation, any comments received, and other information. The street address for the Docket Operations office (telephone 800-647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

**FOR FURTHER INFORMATION CONTACT:** Todd Thompson, Aerospace Engineer, International Section, Transport Standards Branch, FAA, 2200 South 216th St., Des Moines, WA 98198; telephone and fax 206-231-3228.

**SUPPLEMENTARY INFORMATION:**

**Comments Invited**

We invite you to send any written relevant data, views, or arguments about this proposal. Send your comments to an address listed under the ADDRESSES section. Include “Docket No. FAA-2018-0511; Product Identifier 2017-NM-145-AD” at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this NPRM. We will consider all comments received by the closing date and may amend this NPRM based on those comments.

We will post all comments we receive, without change, to <http://www.regulations.gov>, including any personal information you provide. We will also post a report summarizing each substantive verbal contact we receive about this NPRM.

**Discussion**

The European Aviation Safety Agency (EASA), which is the Technical Agent for the Member States of the European Union, has issued EASA AD 2017-0187, dated September 22, 2017 (referred to after this as the Mandatory Continuing Airworthiness Information, or “the MCAI”), to correct an unsafe condition for all BAE Systems (Operations) Limited Model 4101 airplanes. The MCAI states:

Maintenance instructions for BAE Jetstream 4100 aeroplanes, which are approved by EASA, are defined in BAE Systems (Operations) Ltd Jetstream 4100 Service Bulletin (SB) J41-51-001, which references certain Aircraft Maintenance Manual (AMM) tasks. These instructions have been identified as mandatory for continued airworthiness.

Failure to accomplish these instructions could result in an unsafe condition.

CAA UK [Civil Aviation Authority United Kingdom] issued AD 005-02-2002 [which corresponds to FAA AD 2005-15-11, Amendment 39-14200 (70 FR 43025, July 26, 2005) (“AD 2005-15-11”)] to require operators to comply with the inspection instructions as referenced in SB J41-51-001 at original issue.

Since that [CAA UK ] AD was issued, BAE Systems (Operations) Ltd have determined that the inspection requirements for a number of maintenance tasks are incorrect. Consequently, existing inspection items 52-20-013, 53-10-006, 53-10-025, 53-10-029 and 53-10-079 will be amended in Chapter 05 of the AMM. Compliance periods for these changes are given in BAE Systems (Operations) Ltd SB J41-51-001 (now at Revision 4) and BAE Systems (Operations) Ltd Alert SB J41-A53-058. Those fatigue inspections detailed in SB J41-51-001, at Revision 3 or earlier, have now been incorporated into Chapter 05 of the AMM. To avoid duplication these tasks are deleted from SB J41-51-001 at Revision 4.

For the reason described above, this [EASA] AD retains the requirements of CAA UK AD 005-02-2002, which is superseded, and requires accomplishment of the actions specified in BAE Systems (Operations) Ltd Jetstream 4100 SB J41-51-001 Revision 4 and Alert SB J41-A53-058 (hereafter collectively referred to as ‘the SB’ in this [EASA] AD).

The actions include a one-time detailed inspection of fuselage frame 90 for cracking or fatigue damage and repair if necessary; and revising the maintenance or

inspection program, as applicable, to incorporate new or revised maintenance instructions and airworthiness limitations. This proposed AD was prompted by a determination that it is possible for cracks in fuselage frame 90 to exceed the critical length for failure in less time than the current inspection interval; and a determination that inspection requirements for a number of maintenance tasks involving certain airworthiness limitations are incorrect. The unsafe condition is cracking in fuselage frame 90, which could cause it to fail and thereby compromise the structural integrity of the aircraft pressure hull; and fatigue damage of various airplane structures, which could result in reduced structural integrity of the airplane.

You may examine the MCAI in the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2018-0511.

#### **Relationship Between Proposed AD and AD 2005-15-11**

This NPRM would not supersede AD 2005-15-11. Rather, we have determined that a stand-alone AD would be more appropriate to address the changes in the MCAI. This NPRM would require a one-time detailed inspection of fuselage frame 90 for cracking or fatigue damage and revising the maintenance or inspection program, as applicable, to incorporate new or revised maintenance instructions and airworthiness limitations. Accomplishment of the proposed actions would then terminate all of the requirements of AD 2005-15-11.

#### **Related Service Information under 1 CFR part 51**

BAE Systems (Operations) Limited has issued the following service information.

- Service Bulletin J41-51-001, Revision 4, dated July 11, 2017. This service information describes new inspections and revisions to existing inspection requirements and thresholds.
- Alert Service Bulletin J41-A53-058, dated December 6, 2016. This service information describes procedures for a detailed inspection for cracking or fatigue damage of fuselage frame 90.

This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

#### **FAA's Determination and Requirements of this Proposed AD**

This product has been approved by the aviation authority of another country, and is approved for operation in the United States. Pursuant to our bilateral agreement with the State of Design Authority, we have been notified of the unsafe condition described in the MCAI and service information referenced above. We are proposing this AD because we evaluated all pertinent information and determined an unsafe condition exists and is likely to exist or develop on other products of the same type design.

This AD requires revisions to certain operator maintenance documents to include new actions (e.g., inspections). Compliance with these actions is required by 14 CFR 91.403(c). For airplanes that have been previously modified, altered, or repaired in the areas addressed by this proposed AD, the operator may not be able to accomplish the actions described in the revisions. In this situation, to comply with 14 CFR 91.403(c), the operator must request approval for an alternative method of compliance according to

paragraph (l)(1) of this proposed AD. The request should include a description of changes to the required actions that will ensure the continued damage tolerance of the affected structure.

#### **Differences Between this Proposed AD and the MCAI or Service Information**

The MCAI specifies that if there are findings from the airworthiness limitations section (ALS) inspection tasks, corrective actions must be accomplished in accordance with Airbus maintenance documentation. However, this proposed AD does not include that requirement. Operators of U.S.-registered airplanes are required by general airworthiness and operational regulations to perform maintenance using methods that are acceptable to the FAA. We consider those methods to be adequate to address any corrective actions necessitated by the findings of ALS inspections required by this proposed AD.

#### **Costs of Compliance**

We estimate that this proposed AD affects 4 airplanes of U.S. registry.

We estimate the following costs to comply with this proposed AD:

<b>Estimated costs</b>				
<b>Action</b>	<b>Labor cost</b>	<b>Parts cost</b>	<b>Cost per product</b>	<b>Cost on U.S. operators</b>
Inspection	2 work-hours X \$85 per hour = \$170	\$0	\$170	\$680

We have determined that revising the maintenance or inspection program takes an average of 90 work-hours per operator, although we recognize that this number may vary from operator to operator. In the past, we have estimated that this action takes 1 work-

hour per airplane. Since operators incorporate maintenance or inspection program changes for their affected fleet(s), we have determined that a per-operator estimate is more accurate than a per-airplane estimate. Therefore, we estimate the total cost per operator to be \$7,650 (90 work-hours x \$85 per work-hour).

We have received no definitive data that would enable us to provide cost estimates for the on-condition actions specified in this proposed AD.

### **Authority for this Rulemaking**

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. "Subtitle VII: Aviation Programs," describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in "Subtitle VII, Part A, Subpart III, Section 44701: General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

This proposed AD is issued in accordance with authority delegated by the Executive Director, Aircraft Certification Service, as authorized by FAA Order 8000.51C. In accordance with that order, issuance of ADs is normally a function of the Compliance and Airworthiness Division, but during this transition period, the Executive



Director has delegated the authority to issue ADs applicable to transport category airplanes to the Director of the System Oversight Division.

### **Regulatory Findings**

We determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify this proposed regulation:

1. Is not a “significant regulatory action” under Executive Order 12866;
2. Is not a “significant rule” under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979);
3. Will not affect intrastate aviation in Alaska; and
4. Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

### **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

### **The Proposed Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

### **PART 39 - AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

**§ 39.13 [Amended]**

2. The FAA amends § 39.13 by adding the following new airworthiness directive (AD):

**BAE Systems (Operations) Limited:** Docket No. FAA-2018-0511; Product Identifier 2017-NM-145-AD.

**(a) Comments Due Date**

We must receive comments by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**(b) Affected ADs**

This AD affects AD 2005-15-11, Amendment 39-14200 (70 FR 43025, July 26, 2005) (“AD 2005-15-11”).

**(c) Applicability**

This AD applies to all BAE Systems (Operations) Limited Model 4101 airplanes, certificated in any category, all manufacturer serial numbers.

**(d) Subject**

Air Transport Association (ATA) of America Code 05, Time Limits/Maintenance Checks.

**(e) Reason**

This AD was prompted by a determination that it is possible for cracks in fuselage frame 90 to exceed the critical length for failure in less time than the current inspection interval; and a determination that inspection requirements for a number of maintenance

tasks involving certain airworthiness limitations are incorrect. We are issuing this AD to address cracking in fuselage frame 90, which could cause it to fail and thereby compromise the structural integrity of the aircraft pressure hull. We are also issuing this AD to address fatigue damage of various airplane structures, which could result in reduced structural integrity of the airplane.

**(f) Compliance**

Comply with this AD within the compliance times specified, unless already done.

**(g) Inspection**

At the compliance times specified in paragraphs (g)(1) and (g)(2) of this AD, as applicable: Do a detailed inspection of fuselage frame 90 for cracking or fatigue damage, in accordance with the Accomplishment Instructions of BAE Systems (Operations) Limited Alert Service Bulletin J41-A53-058, dated December 6, 2016. If any cracking or fatigue damage is found: Before further flight, repair using a method approved by the Manager, International Section, Transport Standards Branch, FAA; or the European Aviation Safety Agency (EASA); or BAE Systems (Operations) Limited's EASA Design Organization Approval (DOA).

(1) For airplanes with 6,300 flight cycles or fewer since Structural Significant Items (SSI) 53-10-029 (Maintenance Planning Document (MPD) 531029-DV1-10010-1) was last accomplished: Within 6,600 flight cycles after the last accomplishment of SSI 53-10-029 (MPD 531029-DV1-10010-1), or within 6 months after the effective date of this AD, whichever is later.

(2) For airplanes with more than 6,300 flight cycles since SSI 53-10-029 (MPD 531029-DVI-10010-1) was last accomplished: Within 300 flight cycles or 4.5 months, whichever is earlier, since the last accomplishment of SSI 53-10-029 (MPD 531029-DVI-10010-1), or within 6 months after the effective date of this AD, whichever is later.

**(h) Maintenance or Inspection Program Revisions**

Within 90 days after the effective date of this AD: Revise the maintenance or inspection program, as applicable, by incorporating the maintenance tasks and associated thresholds and intervals described in, and in accordance with, the Accomplishment Instructions of BAE Systems (Operations) Limited Service Bulletin J41-51-001, Revision 4, dated July 11, 2017, as applicable. The initial compliance times for new or revised tasks are at the applicable times specified in BAE Systems (Operations) Limited Service Bulletin J41-51-001, Revision 4, dated July 11, 2017, or within 6 months after the effective date of this AD, whichever is later.

**(i) No Alternative Actions and Intervals**

After the maintenance or inspection program has been revised as required by paragraph (h) of this AD, no alternative actions (e.g., inspections) or intervals may be used unless the actions or intervals are approved as an alternative method of compliance (AMOC) in accordance with the procedures specified in paragraph (l)(1) of this AD.

**(j) Terminating Action for Requirements of AD 2005-15-11**

Accomplishment of the actions required by paragraph (h) of this AD terminates all requirements of AD 2005-15-11.

**(k) No Reporting Requirement**

Although the Accomplishment Instructions of BAE Systems (Operations) Limited Alert Service Bulletin J41-A53-058, dated December 6, 2016, specify to submit certain information to the manufacturer, this AD does not include that requirement.

**(l) Other FAA AD Provisions**

The following provisions also apply to this AD:

**(1) Alternative Methods of Compliance (AMOCs):** The Manager, International Section, Transport Standards Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the International Section, send it to the attention of the person identified in paragraph (m)(2) of this AD. Information may be emailed to: 9-ANM-116-AMOC-REQUESTS@faa.gov. Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

**(2) Contacting the Manufacturer:** For any requirement in this AD to obtain corrective actions from a manufacturer, the action must be accomplished using a method approved by the Manager, International Section, Transport Standards Branch, FAA; or the European Aviation Safety Agency (EASA); or BAE Systems (Operations) Limited's EASA Design Organization Approval (DOA). If approved by the DOA, the approval must include the DOA-authorized signature.

**(m) Related Information**

(1) Refer to Mandatory Continuing Airworthiness Information (MCAI) EASA AD 2017-0187, dated September 22, 2017, for related information. This MCAI may be found in the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2018-0511.

(2) For more information about this AD, contact Todd Thompson, Aerospace Engineer, International Section, Transport Standards Branch, FAA, 2200 South 216th St., Des Moines, WA 98198; telephone and fax 206-231-3228.

(3) For service information identified in this AD, contact BAE Systems (Operations) Limited, Customer Information Department, Prestwick International Airport, Ayrshire, KA9 2RW, Scotland, United Kingdom; telephone +44 1292 675207; fax +44 1292 675704; email [RApublications@baesystems.com](mailto:RApublications@baesystems.com); Internet <http://www.baesystems.com/Businesses/RegionalAircraft/index.htm>. You may view this service information at the FAA, Transport Standards Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195.

Issued in Des Moines, Washington, on June 6, 2018.

Michael Kaszycki,  
Acting Director,  
System Oversight Division,  
Aircraft Certification Service.

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